

REMARKS

The Office Action Summary correctly indicates that Claims 18-21 and 23-37 are pending. The indication that Claims 26-31 are allowed is gratefully acknowledged. No claims have been amended or added.

Interview With Examiner

The undersigned hereby acknowledges the helpful suggestions made by Examiner Erez during a telephone interview on January 20, 2004. The substance of the interview is incorporated in the following remarks.

Rejection under 35 U.S.C. § 102

Claims 18-21, 23-25 and 32-37 have been rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 5,519,191 ("Ketcham"). The reasons for the rejection are set forth in numbered paragraphs 2-15 on pages 2-3 of the Official Action. The rejection is respectfully traversed.

Anticipation under § 102 requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in that claim. *See, e.g., Carella v. Starlight Archery*, 231 U.S.P.Q. 644, 646 (Fed. Cir. 1986); *Lewmar Marine Inc. v. Barient, Inc.*, 3 U.S.P.Q.2d 1766, 1767 (Fed. Cir. 1987); *see also*, M.P.E.P. § 2131.

Claim 18 recites a method of manufacturing a fluid vaporizing device comprising the steps of: (a) providing a fluid passage in a body, the fluid passage having an inlet

opening and an outlet opening; and, (b) forming a tubular heater by depositing a thin resistive film inside said fluid passage such that the film lines all or part of the length of the passage; the heater being operable to volatilize fluid in the passage by passing an electrical current through the film. The combinations of features recited in Claim 18 and in the claims dependent thereon are not disclosed or suggested by Ketcham.

In the Official Action, it is alleged that Ketcham discloses depositing a thin resistive film “inside the fluid passage” of Ketcham’s Fig. 4 arrangement. However, the flow-through heater illustrated in Ketcham is not made by depositing a heater layer inside a fluid passage but rather, the heater layer is preformed prior to forming the flow-through heater 60. That is, Ketcham discloses that the flow-through heater 60 includes a flexible heating element in the form of a base sheet 62 which is wound up in spiral fashion with a flexible crimped sheet 64 to form a rolled heater core (see column 10, lines 50-56 of Ketcham). Ketcham further discloses that the flexible base sheet 62 comprises opposing ceramic facing layers of ceramic laminated with and permanently bonded to a conductive metal core layer (see column 10, lines 57-62 of Ketcham). Accordingly, the heater layer is not deposited inside a fluid passage but rather, the heater layer is formed prior to rolling layers 62, 64 to form the flow-through 60. Accordingly, Claim 18 is clearly patentable over Ketcham.

The dependent claims set forth additional features which further patentably distinguish the claimed method over Ketcham. For instance, Claim 19 recites that the depositing step comprises introducing a metal in solution, suspension, or dispersion in the flow passage and depositing metal on the interior of the passage. Claim 20 recites that the

depositing step comprises introducing a solution containing a platinum salt into the fluid passage, depositing platinum and heating the deposited platinum. Claim 23 recites that the depositing step comprises (a) coating the interior of the passage with a layer of metal powder, salt, or oxide in solution, suspension, or dispersion, and, (b) heating the layer to a temperature sufficient to convert the layer to a thin metal film. Claim 24 recites that the depositing step comprises (a) coating the interior of the passage with a metal salt solution and (b) heating the passage to a temperature sufficient to reduce the deposited material to a thin metal film. In the Fig. 4 Ketcham arrangement, the heater layer is formed prior to rolling layers 62, 64 to form the flow-through heater and as such, Ketcham clearly fails to disclose or suggest the depositing steps recited in Claims 19, 20, 23 and 24.

Claim 25 is directed to a fluid vaporizing device made by the method of Claim 18. Because Ketcham fails to disclose the method disclosed in Claim 18, Ketcham does not disclose or suggest a fluid vaporizing device formed by such method. Likewise, Claim 32 is directed to a fluid vaporizing device made by the method of Claim 26. Claim 26 has been allowed and it is submitted that Ketcham fails to disclose or suggest a fluid vaporizing device which would result from the method of Claim 26. With respect to product-by-process claims, it should be noted that the Board of Patent Appeals and Interferences in Ex parte Cashman, Appeal No. 2000-0002 (copy enclosed) held that "it is only where the facts establish that appellant is treating the same materials, or essentially the same materials, to the same steps, or essentially the same steps, as does the prior art, that there is a reasonable basis to presume that appellant only achieves what the prior art achieves . . . " citing In re

Woodruff, 919 F.2d 1575, 1578, 16 U.S.P.Q.2d 1934, 1936 (Fed. Cir. 1990), In re Spada, 911 F.2d 705, 708, 709, 15 U.S.P.Q.2d 1655, 1657, 1658 (Fed. Cir. 1990) and In re Best, 562 F.2d 1252, 1255, 195 U.S.P.Q. 430, 433, 434 (C.C.P.A. 1977). In the present case, it is submitted that the process disclosed in Ketcham is not the same or essentially the same as that recited in Claim 18 or Claim 26 and as a result, there is no reasonable basis to presume that the claimed process achieves the structure disclosed in Ketcham.

Accordingly, Claims 25 and 32 are deemed patentable over Ketcham.

Claims 33-37 depend from Claim 25 and set forth features which further patentably distinguish the claimed fluid vaporizing device over Ketcham.

For at least the foregoing reasons, all claims are patentable over Ketcham. Accordingly, withdrawal of the rejection of Claims 18-21, 23-25 and 32-37 under 35 U.S.C. § 102(b) is respectfully requested.

CONCLUSION

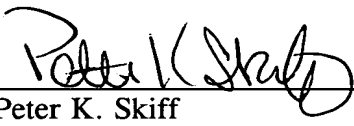
In view of the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order. Such action is earnestly solicited.

In the event that there are any questions relating to this application, it would be appreciated if the Examiner would telephone the undersigned concerning such questions so that prosecution of this application may be expedited.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

Date: January 23, 2004

By: 
Peter K. Skiff
Registration No. 31,917

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 12

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JOSEPH B. CASHMAN

Appeal No. 2000-0002
Application 08/848,477¹

ON BRIEF

Before METZ, WALTZ and TIMM, Administrative Patent Judges.
METZ, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the examiner's refusal to allow claims 1, 21, 22 and 24 through 30, which are all the claims remaining in this application.

Application for patent filed May 8, 1997. According to the official records of the United States Patent and Trademark Office (PTO), said application is a continuation of Serial Number 08/376,778, filed on January 23, 1995, and now U.S. Patent Number 5,709,730, issued on January 20, 1998.

THE INVENTION

The appealed claims are directed to an iron-rich residue prepared from dry electric arc flue dust by a series of process steps. Broadly, the flue dust is acidified to solubilize certain metals therein and the iron present is oxidized to form insoluble iron oxides which precipitate at certain acidic pHs from the solution and are recovered as an "iron-rich" residue.

Claims 1, 21 and 29 are believed to be adequately representative of the appealed subject matter and are reproduced below for a more facile understanding of the claimed invention.

Claim 1. An iron-rich residue obtained by

(a) mixing dry electric arc flue dust powder with a calcium chloride/hydrochloric acid leach mill solution to produce a slurry having a pH of about 2.6 and a solids content (pulp density) of about 15-30 wt.%;

(b) oxidizing the base metals in the slurry to produce a metal-rich solution containing the base metals and an insoluble hematite complex by heating the slurry in an oxygen atmosphere at a temperature of about 90-120 deg C

and a pressure of about 50-90 psi; and

(c) filtering the hematite complex from the metal-rich solution.

Claim 21. An iron-rich solid residue obtained by the process for the recovery of zinc from electric arc flue dust while recycling flue dust iron to the electric arc furnace, comprising the steps of:

(a) at a pH of about 2.6, leaching zinc in electric arc flue dust into an aqueous solution using a calcium chloride/hydrochloric acid leach mill solution;

(b) separating the aqueous solution from an iron-rich solid residue remaining after the leach of step (a); (c) recovering the zinc from the aqueous solution by adding calcium hydroxide to the aqueous solution at a pH of about 6-10 to create a calcium-rich solution;

(d) regenerating the calcium chloride/hydrochloric acid leach mill solution by adding sulfuric acid to the calcium-rich solution to precipitate gypsum; and (e) separating the gypsum from the leach mill solution.

Claim 29. An iron complex obtained by the process:

(a) reacting a slurry of the flue dust and a calcium chloride/hydrochloric acid leach mill solution to place the base metals in solution while leaving essentially all of the iron complexed with the sodium, potassium, and magnesium; and

(b) separating the base metal solution from the iron complex.

THE REFERENCES

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The references of record which are being relied on by the examiner as evidence of lack of novelty and as evidence of obviousness are:

McElroy	5,336,297	August 9,
1994 Cashman	5,709,730	
January 20, 1998		

THE REJECTIONS

Claims 1, 21, 22 and 24 through 30 stand rejected under 35 U.S.C. § 102(a) as anticipated by McElroy or, in the alternative, as being obvious under 35 U.S.C. § 103 from McElroy. Claims 1, 21, 22 and 24 through 30 stand rejected under the judicially created doctrine of obviousness-type double patenting over claims 1 through 22 of appellant's prior patent U.S. patent Number 5,709,730.

Additionally, the examiner has objected to claims 22, 24, 26, 27, 28 and 30 as being "substantial duplicates" of the claims from which they depend because, in the words of the examiner:

the process limitations in these claims do not further limit the products of Claims 1, 21 and 29 because it has been held that the addition of a method step in a product claim cannot impart patentability to an old product, In re Dilnot, 133 USPQ 289 [Examiner's Answer, page 2].

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Nevertheless, as appellant properly observes at page 8 of his brief, we do not have the authority to resolve the examiner's objection.

Pursuant to 35 U.S.C. § 134 the Board of Patent Appeals and Interferences has authority to review rejections of the claims of an applicant for patent. A refusal to grant claims to an applicant for patent based on a substantive reason under the statute is a rejection of a claim as contrasted with an examiner's refusal to grant a claim based on a formal objection to the claims or application, which is an objection. As also correctly noted by appellant in his brief, appellant's recourse to the examiner's objection, was by way of a petition under 37 C.F.R. 1.181(a)((1) not by an appeal under 35 U.S.C. § 134. Accordingly, we do not have authority to reach the issue of the propriety of the examiner's objection.

OPINION

The claims before us are so-called "product-by-process"

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claims. That is, appellant's claimed "iron-rich residue", a hematite complex, is described by the steps necessary for its manufacture. It is by now well-understood that, even though a product-by-process is defined by the process steps by which the product is made, determination of patentability is based on the product itself. In re Thorpe, 777 F.2d 695, 227 USPQ 964 (Fed. Cir. 1985). As the court stated in Thorpe, 777 F.2d at 697, 227 USPQ at 966:

The patentability of a product does not depend on its method of production. *In re Pilkington*, 411 F.2d 1345, 1348, 162 USPQ 145, 147 (CCPA 1969). If the product in a product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. (citations omitted).

Nevertheless, we are not free to ignore the process by which appellant's product is made in considering the prior art because we must consider all appellant's claim limitations in reaching our final determination of patentability.

We shall first address the rejections over McElroy. While we recognize that alternative rejections under 35 U.S.C. §§ 102/103 have been sanctioned by one of the predecessors to our reviewing court, the basis for the court's approval of this practice was based on the PTO's inability to make and test an

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appellant's invention and compare it to the prior art. The decision in Fitzgerald, relied on by the examiner, is such a case. But the court has made it clear that it is only where the facts establish that appellant is treating the same materials, or essentially the same materials, to the same steps, or essentially the same steps, as does the prior art, that there is a reasonable basis to presume that appellant only achieves what the prior art achieves, and the alternative §102/103 rejection is sanctioned. See In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990); In re Spada, 911 F.2d 705, 708, 709, 15 USPQ2d 1655, 1657, 1658 (Fed. Cir. 1990); In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433, 434 (CCPA 1977).

Here, not only has the examiner failed to read the disclosure of McElroy on the claimed steps used to prepare appellant's product-by-process, but the examiner has conceded that McElroy does not describe appellant's method for preparing his product. See pages 4 and 6 of the Answer. Apparently, it is the examiner's position that appellant is claiming hematite and McElroy discloses preparing hematite. Hematite is defined in the various literature and chemical

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dictionaries as red iron ore or iron oxide containing impurities.

However, the claims are directed to an "iron-rich residue" which is an "hematite complex" and not hematite, *per se*. Thus, the claims are directed to a residue, which is a complex of iron oxide with other components derived from the method by which the product is prepared. The examiner acknowledges at page 6 of his Answer that McElroy does not "explicitly disclose a product comprised of iron, sodium, potassium and magnesium." Coupled with the examiner's admission that McElroy prepares his products using a different method than claimed we find no basis on which the examiner could have reasonably presumed that McElroy either describes, in the sense of 35 U.S.C. § 102, or would have rendered obvious, in the sense of 35 U.S.C. § 103, the subject matter claimed by appellant.

OBVIOUSNESS-TYPE DOUBLE PATENTING

The examiner has concluded that the claims of appellant's earlier issued patent, of which application this application is a voluntarily filed continuation, are directed to a process for recovery of metal values from electric arc flue dust,

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including removing iron from same by converting the iron to an insoluble form in an iron-rich waste cake which includes a hematite complex containing other metals and ions. Appellant does not challenge the examiner's factual determinations.

Rather, appellant has conceded that:

The present claims define a product made by one or more of the processes in the patent.

But appellant has argued that, based on policy reasons having to do with the 20-year patent term enacted in 1995, the examiner's rejection should be reversed.

Specifically, appellant urges that because an applicant for patent may not extend the term for any subsequently issued patent beyond the term set by the statute and based on the filing date of appellant's first filed application, the requirement for a terminal disclaimer no longer exists. Recognizing that a terminal disclaimer requires that the first and subsequently issued patents must be commonly owned throughout the entire term in order for the patents to remain enforceable, appellant declares that:

alienation of one claim within a patent is possible, there is no compelling reason to adhere to obviousness-type double patenting for the purpose of

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having Applicant file a terminal disclaimer to assure that the two patents will remain in common ownership.

We disagree with each of appellant's arguments.

Appellant's arguments are without merit because: (1) the judicially created doctrine of obviousness-type double patenting was not eliminated by either Congress or any Federal court due to the recent revisions of the patent term provisions of 35 U.S.C. § 154; and, to the extent policy considerations have any bearing on our decision making authority under 35 U.S.C. § 134, (2) the policy rationale for the judicially created doctrine of obviousness-type double patenting remains notwithstanding the current patent term provisions of 35 U.S.C. § 154.

The amendment in 1995 to 35 U.S.C. § 154 changed, in general, the term of an issued patent from 17 years from the date of issue to 20 years from the date of filing. The change took effect on June 8, 1995 and applied to utility and plant patent applications filed on or after that date. In 1999, §154 was amended again to include limitations on extending the term of certain patents and included a provision that:

No patent the term of which has been disclaimed beyond a specified date may be adjusted under this

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section beyond the expiration date specified in the disclaimer.

Therefore, Congress has, in the providing for the amended statute, specifically provided for in the statute the possibility of a terminal disclaimer being filed in an application filed on or after June 8, 1995.

More significantly, however, is the fact that obviousness-type double patenting is a judicially created doctrine and we should, therefore, look to the courts for any evidence that the courts have signaled the demise of the doctrine. In a recently issued decision, Eli Lilly & Co. v. Barr Laboratories, Inc., 251 F.3d 955, 58 USPQ2d 1869 (Fed. Cir. 2001), the court provided evidence in the strongest manner imaginable that the doctrine was alive and well: the court, of its own volition, held certain patent claims invalid on the grounds of obviousness-type double patenting. In their opinion, the court repeated its oft repeated rationale for the doctrine as being "to prevent unjustified timewise extension of the right to exclude granted by a patent." Lilly at 251 F.3d 967-68, 58 USPQ2d 1878.

There are other compelling reasons for continuing to require the terminal disclaimer. First, as we have noted

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above, the patent term extension provisions of §154 do not ensure that any patent issuing on an application filed on or after June 8, 1995, will necessarily expire twenty years from the earliest filing date or from the earliest date for which benefit is claimed. Additionally, and notwithstanding appellant's statement to the contrary, the rules (37 C.F.R. § 1.321(c)(3)) still require that a properly filed terminal disclaimer include a statement that the patent and the application whose term is being disclaimed are only enforceable for and during the period that the two are commonly owned. Thus, not requiring a terminal disclaimer on the theory that no subsequently issued patent based on the first issued patent's filing date may be extended beyond twenty years for applications filed on or after June 8, 1995, would nullify the very purpose for which the rule was promulgated.

This leaves us only with appellant's arguments found at page 10 of his brief where he argues that we should, apparently, apply the standard for requiring restriction to the claims in comparing them with the claims of the issued patent for the purpose of determining whether the claimed

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subject matter would have been obvious from appellant's earlier issued patent claims. Nevertheless, in In re Berg, 140 F.3d 1428, 1431, 46 USPQ2d 1226, 1229 (Fed. Cir. 1998) the court held that a claim is properly rejected under this doctrine when it is not patentably distinct from subject matter claimed in a commonly owned patent. The court observed that the test is generally a one-way test, requiring only a determination of the obviousness of the application claims over the earlier issued patent claims. Under certain unusual circumstances not found here, the court recognized that a two-way test may sometimes apply. But the two-way test was characterized as "a narrow exception to the general rule of the one-way test." *Id.*

We find that appellant here is entitled to the one-way test because there are no unusual circumstances which would trigger the two-way test being applied. Appellant made a conscious, deliberate prosecutorial decision in the parent application not to pursue the appeal of the product-by-process claims but to allow the process claims to issue and to re-file a continuing application on the subject matter of the product-by-process. Because appellant has conceded that the products

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) APPEALS
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THOMAS A. WALTZ	
INTERFERENCES	
Administrative Patent Judge)
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AHM/gjh

TIMM, Administrative Patent Judge

concurring-in-part, dissenting-in-part

While I concur in the decision of my colleagues with regard to the reversal of the rejection under 35 U.S.C. §§ 102 and 103 over McElroy, I dissent from the affirmance of the rejection made under the judicially created doctrine of obviousness-type double patenting. For the following reasons, I would reverse the obviousness-type double patenting rejection as well.

According to the Examiner, the obviousness-type double

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patenting rejection is based on the following (Answer, page 5):

Although the conflicting claims are not identical, they are not patentably distinct from each other because the process produces an insoluble hematite complex (col. 11, line 54) which suggests the claimed residue.

I agree with the Appellant that the Examiner's reasoning simply presumes that the product recited in the appealed claims is obvious (Brief, page 9). It must be remembered that the Examiner bears the initial burden of presenting a prima facie case of unpatentability. In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). With respect to obviousness-type double patenting, the Examiner must specifically point out the differences between the inventions defined by the patented claims and the appealed claims (the conflicting claims). The Examiner must then articulate the reasons why a person of ordinary skill in the art would conclude that the invention defined in the appealed claims is an obvious variation of the invention defined in the patented claims. The Examiner has not pointed out the differences nor has the Examiner presented reasons supporting a conclusion that the differences are obvious variations. Simply declaring

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that a product produced in the previously patented process suggests the now claimed product does not meet the burden.

My colleagues point to a statement made in the Brief at page 9, lines 19-20 which states that "[t]he present claims define a product made by one or more of the processes in the patent" and conclude that Appellants have not challenged the examiner's factual determinations. However, my reading of the entire paragraph in which the statement is contained leads me to believe that the statement was made to point out the relationship of the conflicting claims as directed to different statutory classes of invention (process and product). While the statement does indicate that the product can be made by the patented processes, Appellants also point out that the patented processes do not limit the reactants loaded into the reactor and, therefore, the patented processes can be used to make a materially different product (Brief, page 10, lines 5-6). The Appellants argue that this difference indicates that the inventions are separate and distinct. The Examiner must establish that the conflicting claims are not "patentably distinct". In re Berg, 140 F.3d 1428, 1431, 46 USPQ2d 1226, 1229 (Fed. Cir. 1998). Saying that

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the claims are not "patentably distinct" is another way of saying that they define "merely an obvious variation" of an already patented invention. In re Braat, 937 F.2d 589, 592, 19 USPQ2d 1289, 1291-92 (Fed. Cir. 1991). The Appellants point to a difference between the conflicting claims for which the Examiner has provided no convincing explanation as to why the difference is an obvious variation. I also note that there are numerous further differences between the conflicting claims which the Examiner has failed to acknowledge.

As an aside, I agree with my colleagues that the policy reasons for the judicially created doctrine of obviousness-type double patenting remain notwithstanding the current patent term provisions of 35 U.S.C. § 154. Under 35 U.S.C. § 154(b), patent terms may be adjusted based on various delays occurring due to the actions of the Patent and Trademark Office. Such an adjustment could very well result in a difference between expiration dates of copending patents with the same effective

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filing date. Therefore, an improper timewise extension is
still possible in the absence of a terminal disclaimer.

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